



## CITY OF GLENDALE RESIDENTIAL PLAN SUBMITTAL CHECKLIST REQUIREMENTS FOR CUSTOM HOMES

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This list contains most requirements, but it is not all-inclusive. It is still the responsibility of the applicant to ensure compliance with all codes and amendments.

Codes currently in effect: 2012 IBC, IRC, IMC, UPC, IPC, IFGC, IECC, 2011 NEC, 2009 IFC with City of Glendale Amendments.

### GENERAL REQUIREMENTS:

1. Provide two (2) sets of complete plans, minimum size 24" x 36". No loose sheets shall be attached with the exception of truss calculations, structural calculations and manufacturer's cut sheets and literature.
2. All plans shall be legible and no scale smaller than 1/4" = 1'-0" shall be used for floor plans, framing plans, elevations and details.
3. All corrections and revision SHALL be made on the original tracings and two (2) new sets of prints shall be returned along with all redline plans.
4. Details, data and information provided to the Building Safety Department shall not be included by reference or attachment only. The data must be delineated on the drawings by notes or graphics as part of the original tracings or masters.
5. Red lining of final prints will not be acceptable. To avoid delays ensure all corrections have been made, are complete and have been coordinated on all applicable details and notes.
6. Review all code references when making the corrections to assure compliance. Do not copy the code reference as a correction onto the plan unless such reference is requested as a note to be incorporated into the plan.
7. List the square footage for the following areas separately: livable area, garage, porch, patio covers and decks.
8. All engineers and architects involved in the design of the structure are to seal the related sheets of the plans, details and calculations. This is in accordance with the Rules of the State Board of Technical Registration.
9. Materials and color boards must be no larger than 8 1/2" x 11".

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10. The content of the boards must contain the following information items to accurately describe all important project material/color details:
- Reduced exterior building elevation.
  - Actual samples of all exterior materials – chips or pieces of masonry block, wood trim, window frames, tinted glass, awnings, stucco texture, etc. (The sample must not protrude more than 1/8 " from the face of the board.)
  - Paint samples of the proposed building materials.
  - Pieces/chips of any proposed special paving materials.
  - Catalog pictures and specifications of project lighting, outdoor furniture, art, or other site improvements.

**SITE PLAN:**

1. Provide a site plan indicating the location of all structures on the property. You will be asked to provide an 8 1/2 x 11" or 11" x 17" copy of your site plan after your plan has been approved.
2. Provide dimensions from all structures to property lines and show distances between all structures. Indicate dimensions of all property lines and all easements.
3. Indicate the percentage of lot coverage. Lot coverage includes all projected roof areas excluding overhangs. Lot coverage does not include pool areas and driveways. Lot coverage does include patio covers, accessory buildings, and storage sheds, etc.
4. Show all driveways, sidewalks, steps and fences.
5. Indicate the location of water and sewer or septic lines on the property and where they enter the house. Provide the location of your water meter and septic system if it exists.
1. Identify name of subdivision, property address and lot number. Provide lot area in square feet.
7. Grading and drainage plan shall be required for an acre or more. Less than an acre shall be determined upon plan review.

**FOUNDATION PLAN:**

1. Note on the drawings the allowable soil bearing pressure used in the design of the footings.
2. A soil report shall be required. A copy of the soil report shall be submitted with the construction plans and foundation design shall reflect soil report recommendations.

3. Dimension the stem wall thickness, footing width thickness and depth into undisturbed soil for each footing type and condition.
4. Note and detail minimum reinforcing of two (2) number 4 rebars in the foundation.
5. Dimension interior footings and provide minimum reinforcing of one (1) number 4 rebar in interior bearing footings.
6. Provide the minimum reinforcing specified above unless the soil report or structural calculations specify additional reinforcing requirements.
7. Provide foundation details on the foundation plan sheet or on a separate detail sheet. Details shall be cross-referenced to the foundation plans.
8. Locate and detail all footings for the following: fireplace, girder truss bearing locations, turn downs, interior bearing walls, posts, columns, and sunken or raised areas.
9. All slabs and pads, including landings at all doors, shall be shown and their thickness specified. Indicate the slopes for exterior slabs.
10. Locate and specify all anchor bolt spacing and post anchors on the foundation plan.
11. All foundation hold downs and anchor bolt spacing for shear walls shall be specified, located and detailed.
12. Show location of underground return air ductwork on the foundation plan.

**FLOOR PLAN:**

1. Label all rooms and spaces, show all doors.
2. Provide all window sizes and types, and designate the operable portion of windows as well as the locations of tempered glass.
3. Comply with light and ventilation requirements for windows in all habitable rooms, bathrooms and utility rooms. Section R303 IRC.
4. Comply with bedroom and basement window egress requirements. Section R310 IRC.
5. Show maximum sill height of 44" in bedroom and basement egress windows. Section R310 IRC.
6. Detail and specify basement window wells. At egress windows, a minimum width of 36" is required. A permanent egress ladder complying with Section R310 IRC.

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7. If basement window wells are adjacent to walkways or patio slabs, guardrails 36" in height are required. Guardrails shall comply with Section R312 IRC. (See attached Residential Basement Window well policy. Attachment #1)
  8. Provide access to each separate. Designate locations on the drawings. Openings shall not be less than 22" x 30". The location of the attic access shall provide a minimum of 30" of head room. Section R807 IRC.
  9. Provide 5/8" type x gypsum board on all walls common to the garage and house and on all garage bearing walls and ceiling. Note doors between the house and the garage shall be 1-3/8" solid core, self-closing. City of Glendale Amendments.
  10. The walls and soffits of the enclosed space under stairs shall be protected on the enclosed side with 5/8" type x gypsum board. City of Glendale Amendments.
  11. Note and specify that the shower area walls shall be finished with moisture resistant gypsum board and ceramic tile or equal to a height of 72" above the drain. Section R307 IRC.
  12. Note and specify that shower enclosures shall have a minimum finished interior of 1,024 square inches and shall be capable of encompassing a minimum 30" circle (Section 408.6 UPC). All glass enclosures shall be tempered, per Section R308 IRC.
  13. Show that each water closet is located in a clear space not less than 30 inches wide and has a clear space in front of not less than 24". Section 402.5 UPC.
  14. Detail and specify stair width, rise and run, landing width, handrail heights, guardrail height and intermediate rail spacing. Section R311.7 IRC.
  15. Factory built fireplaces (zero-clearance) shall be listed by an approved listing agency. Specify make and model number and provide the approval number of the testing agency.
  16. For masonry and zero-clearance fireplaces, indicate fireplace location, hearth size and materials.
  17. Locate skylights, specify materials and provide ICC Evaluation Report number for those exceeding 2' x 4'.
  18. If applicable, provide the location of laundry chutes and specify shaft enclosure. Section 713 IBC.
  19. Comply with Sections R311 IRC for landings at doors.
  20. Locate and identify shear wall types and locations if applicable. (On separate page)
  21. Locate and identify heights of all ceilings. Include hallways, utility rooms, garages and walk-in closets.

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22. Designate the locations of water heaters. Indicate the location of the T and P relief line from the water heater to the exterior of the building. Note the T and P relief line to be full size steel pipe or hard drawn copper tubing extending to the exterior of the building and terminating in a downward position not more than 2 feet nor less than 6" above grade. The T and P relief line shall not terminate over walkways, patios, carports or other similar areas.
  23. All appliances located in the garage must be raised 18" above finished floor. Platforms must be capable of supporting the appliances. IMC 304

**STRUCTURAL:**

1. Provide complete roof and floor framing plans. Show size, spacing and span of all framing members, i.e., trusses, joists, rafters, beams, glu-lams, lintels, headers, ledgers and blocking.
2. Specify lumber grade, species and sizes of all rafters, joists, beams and headers. Lumber values must comply with current NDS Values.
3. Roof and floor truss calculations are to be clearly cross-referenced to the roof and floor framing plans.
4. Note and detail tie straps, framing anchors and joist hangers by type, size and required attachment to framing members. Also provide roof blocking details.
5. On the floor framing plan, note and detail double joists parallel to bearing partitions, double trimmers and header joists at framed openings, framing anchors for joists and header support, and bridging or blocking at the ends and bearing points of the floor joists.
6. Locate skylights and other roof openings. Provide details of framing around openings in floor or roof systems.
7. Size and schedule wall headers and lintels. State grade, size, required bearing surface and support required.
8. Provide details for all bearing and critical non-bearing conditions.
9. Detail all shear connections from the foundation to the roof plywood.
10. Indicate and note post sizes or double-triple studs and coordinate with foundation plan.
11. Provide a nailing schedule on the drawings; refer to IRC Table R602.3(1) and list applicable connections on the drawings.

12. Provide bracing details and notes for exterior frame walls and main cross-stud partitions to comply with Section R602.10 IRC. Minimum panel widths are required to effectively brace the partition. Maximum allowable diaphragm height to width ratios must be in compliance for plywood and gypsum board.
13. If bracing does not comply with Section R602.10 IRC, provide a lateral analysis or alternate design to be reviewed by the plans examiner. Wind forces for single story residences shall use 90 mph, Exposure B. Two story residences shall use 90 mph, Exposure C.

**ELEVATIONS:**

1. Provide complete drawings of all elevations. Include patio covers, decks, fireplaces and bay windows.
2. Indicate all materials used - stucco, concrete block, glass block, roofing systems, siding, veneers, etc.
3. Detail and note wall bracing at exterior frame walls and at main cross partitions. Comply with Section R602.10 IRC.
4. Provide ICC Evaluation Report number and manufacturer of all concrete or clay-type tile roofing.
5. Note and specify all roof slopes. Minimum roof slope 1/4" per foot. (Section R905 IRC).
6. Detail, note and size all roof drains/scuppers on flat roofed areas. (Section R903 IRC and City of Glendale Amendment).
7. Provide adequate attic ventilation per Section R806 IRC: A net-free ventilating area of not less than 1/150 of each attic area is required. On the plans, state the amount of net-free ventilating area required and the net-free ventilating area provided. Detail and note on the plans, the type, size and location of all attic vents. Eave or cornice vents shall not be located within 3 feet measured laterally above a window or door in the story below or where insulation will block ventilation action. Ventilation product cut sheets may be required.
8. Note and dimension that the fireplace chimney must terminate a minimum of two feet above any point of a roof within ten feet measured horizontally. Section R1003.9 IRC.
9. Glass in hazardous areas shall be safety glass. Specify on applicable floor plans and elevations. Section R308.4 IRC.
10. When thin coat stucco is used in attic areas, a thermal barrier behind the foam or in lieu of the foam shall be used. Section R316 IRC. Specify the method selected to provide this thermal barrier.

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**DETAILS AND GENERAL NOTES:**

1. Note and specify a complete roofing system: specify roofing type, grade of materials, valley flashing material, underlayment required and method of installation, attachments of roofing materials as required by IRC Chapter 9, or by the requirements of their listing. Provide ICC numbers for tile.
2. Masonry and concrete basement walls shall be designed and engineered by a structural engineer registered in the State of Arizona. Sealed drawings and calculations will be required. Note and detail all reinforcement and anchorage required.
3. For veneer, note and specify type of veneer. Detail and specify anchoring method, backing and support. Provide an ICC number and product name if applicable, per Section R703 IRC.
4. For thin coat stucco systems over foam board, note and specify the ICC Evaluation Report number, system name and manufacturer. Note and specify the vapor barrier used.
5. Detail and specify foundation grade redwood or pressure treated wood sill plates. Section R319 IRC.
6. Note and specify the size, spacing and length of embedment of anchor bolts for sill plates, top plates and ledgers.
7. Note and specify all ledgers and connections to wood-frame or masonry.
8. Note and specify tie straps, framing anchors, and joist/truss hangers by type, size and required attachment to framing members.
9. Provide a nailing schedule on the drawings, refer to IRC Table R602.3(1) and list applicable connections on the drawings.
10. Note and/or detail fire blocks for concealed spaces in walls, partitions, furred spaces, at ceiling and floor levels and at intervals of ten feet along the walls. Section R602.8& R302.11 IRC.
11. Note and detail fire blocks in opening around vents, chimneys and fireplaces at floor and ceiling levels and in concealed spaces between wall studs at stairs in line with the stringers.
12. Detail and note all masonry wall reinforcement.
13. Masonry walls shall be anchored to floors and roofs which provide lateral support for the wall. Detail a positive direct connection capable of resisting the horizontal forces. Sections R606 IRC.

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14. Detail masonry fireplaces by dimensioned and noted sections and fire-box plan. Refer to Chapter 10 of the IRC. State flue size, dimension hearth width, and reinforcing. Note and detail anchorage tie straps fastened to four joists with 2-1/2" bolts, embedded into masonry and engaging the outer reinforcing bars with a six inch hooked extension.
  15. Cross-sections shall be cross referenced to the floor plan and framing plans.
  16. Pre-fabricated metal stair shall have manufacturer's specifications attached to the plans.
  17. Note glass block horizontal reinforcing and mortar specifications complying with Section R610 IRC.
  18. Header or lintel schedules shall be provided on the plans and if not on the same sheet as the framing plan, be referenced on the framing plan.
  19. Detail gable end bracing connections.
  20. Provide stairway connection details and stringer sizes.
  21. Note and indicate all floor/ceiling assembly draft stops. Section R502.12 & R302.12 IRC.
  22. Completely detail all connections and cross reference to the foundation and framing plans:
    - truss to top plate
    - beam to post
    - post to slab (provide clearance to concrete if exposed to water or provide treated wood)
    - sill to slab, washers, anchor bolts sizes and spacing, post to sill plate
    - girder truss to truss
    - ledgers to masonry; ledgers to frame; frame to ledgers
    - joist to ledger
    - hanger types
    - straps
    - hold down locations and type
    - nailing
    - continuous load path for shear transfer
  23. More than one cross section may be required to illustrate how the structure is built.
  24. Provide detail of continuation of shear walls to the roof.
  25. Cut details for all bearing conditions as well as critical non-bearing conditions at both interior and exterior locations.



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26. Specify and detail all over framing. If solid sheathing is used on lower trusses, provide minimum openings of 22" x 30" for access and ventilation into over-framed areas. If solid sheathing is not used on lower trusses, provide details for bracing of top chord of lower trusses.
  27. Specify design criteria: values for floor dead load and live load, (include walking decks) roof dead load and live load.
  28. Provide jamb details for openings up to eight feet and details for openings over eight feet. Double king studs will be required at openings over eight feet.
  29. Detail and specify anchorage for common and scissor trusses. Detail slip connection to allow for horizontal movement at one end of scissor trusses if applicable.
  30. On standard detail sheets, cross out all details that do not apply or are not used.
  31. Provide sealed Integra layout plans and calculations, if applicable.
  32. Note weights of all plies and coating of all built up roofing. Section R905 IRC.
  33. For all siding, note and specify the type, material, thickness, underlayment and attachment of the siding materials. A vapor barrier is required and must be specified.
  34. Materials used in construction must comply with the material standards of the applicable section of the IRC/IBC. Provide notes on the drawings establishing material quality as required by the IRC/IBC for the following materials: concrete, reinforcing steel, cmu, brick, mortar, grout, lumber (species and grade for joists, rafters, posts, studs and beams), glu-lams, treated lumber, plywood, wood shingles, shakes and siding.
  35. Note on the plan all lumber shall bear an approved grading stamp.
  36. Note and specify damp-proofing for all basement walls. Section R406 IRC.

#### **MECHANICAL:**

1. Provide a separate mechanical plan. Designate the locations, capacity and fuel type (electric or gas) of the heating and air conditioning equipment. Designate the locations of each supply register, return air grill and all ductwork.
2. The dwelling must be provided with heating capable of maintaining a room temperature of 68 degrees at a point three feet above the floor. Section R303.9 IRC.
3. Show exhaust fan locations for bathrooms, water closet compartments, and laundry rooms in lieu of openable windows. Include CFM rating for these fans. Section R303 IRC.

4. Gas appliances not located in the garage or carport shall comply with Chapter 7 IMC, for combustion air requirements. Compliance with these requirements shall be detailed and noted on the plans.
5. Designate on the plans by details and notes how compliance with Section 504 IMC (dryer vent length limitations) is achieved. Dryer vents exceeding a 4" diameter will require engineered drawings and calculations, sealed by a mechanical engineer.
6. If the heating or air conditioning equipment is located in the attic, show location of access, cat walk, and working platform. Show provisions for and route of secondary condensate drain. (IMC 307)

#### **PLUMBING:**

1. Provide either a waste isometric or a plumbing floor plan (separate from other floor plans), indicating sizes of all waste piping, vents and locations of floor drains, clean outs and ejectors. These drawings must be incorporated onto the plans. No small-sized sheets attached to the drawings will be allowed. Either plan must include the note: "SCHEMATIC ONLY - FOR PIPE SIZING AND CLEAN-OUT LOCATIONS ONLY".
2. Note and specify all piping materials. ABS or PVC used in DWV system must be Schedule 40; copper tubing used in water piping must be specified Type M minimum weight in the building above the slab and copper tubing used in water piping below the floor slab must be Type L minimum weight, installed without joints. Gas fuel piping shall be wrought iron or steel (galvanized or black). Section 604, 701.
3. Provide a gas isometric with the length of line to each appliance, BTU demand of each appliance, size of each branch, total demand and size of the meter. FYI - Southwest Gas provides gas service at 1,000 BTU per cubic foot i.lo. 1,100 BTU/cu.ft. as specified in Code.
4. Note and specify compliance with the low flow plumbing fixture ordinance. Water closets, 1.6 gallons per flush; sinks and showerheads, 2.75 gallons per minute.
5. Drainage piping serving fixtures which have flood level rims located below the elevation of the next upstream manhole cover of the public sewer, shall be protected from backflow of sewage by a backwater valve. Note and specify on the plans the location and type. Section 710, UPC.
6. Indicate the location of sump and sewage ejectors either on the plumbing floor plan or on the waste isometric.
7. If using a waste isometric, indicate proper island sink venting.
8. On the waste isometric, or plumbing floor plan, indicate the location and connection of window well drains to the sump pump.

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9. Hose bibs must be located on the plan. Backflow preventors are required on each hose bib and must be specified. UPC 603.
  10. Specify clearances for gas water heaters installed in recessed areas or alcoves. (Section 504, UPC)
  11. Specify airgap for dishwashers. UPC 807.4 and City of Glendale Amendments
  12. A water meter calculation worksheet is required to be completed (see Attachment #3).

**ELECTRICAL:**

1. A separate electrical floor plan shall be provided.
2. Load calculations, panel schedules and one-line diagrams shall be provided and incorporated onto the plan. No loose sheets shall be attached.
3. Note the type and ampacity of the panel, note the grounding conductor shall be a minimum of 20 feet of #4 bare copper wire embedded in the concrete footing (Ufer). See attached policy for post tension or matt slabs.
4. Note a bonding conductor, based on a 200 amp service, a minimum of one (1)-#4 copper wire connecting the building's metal water (NEC 250.66) and gas piping (NEC 250.52 systems to the service equipment enclosure grounding buss.
5. Designate the location of all required light fixtures, receptacle outlets, power outlets and switches.
6. At least one wall switch controlled light or outlet must be provided in bathrooms, hallways, stairways, attached garages, outdoor entrances or exits and all habitable rooms. Article 210.70(A) NEC.
7. Receptacle outlets shall be provided so that no point along the floor line of an unbroken wall two or more feet in length is more than six feet from an outlet within that wall space. Article 210.52(A)(1) NEC.
8. Provide at least one receptacle outlet in hallways ten or more feet in length. Article 210.52(H) NEC.
9. At least one ground fault circuit interrupter (GFCI) receptacle outlet accessible at grade level shall be installed on the exterior at the front and back of the dwelling. Article 210.52(E) NEC. Wiring for this outlet may not be taken from a small appliance circuit.
10. Receptacle outlets shall be provided at each kitchen counter space wider than 12 inches and shall be installed so that no point along the wall line is more than 24 inches

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- from a receptacle outlet. Article 210.52 NEC. All kitchen counter top outlets must be GFCI.
11. Island or peninsular counter tops 12 inches or wider shall have at least one receptacle outlet. Article 210.52 NEC.
  12. A GFCI receptacle outlet shall be provided adjacent to the basin in each bathroom. Article 210.52(d) NEC. Bathroom receptacle outlets shall be supplied by at least one 20 AMP branch circuit. Such circuits shall have no other outlets.
  13. All receptacle outlets in bathrooms, unfinished basements, garages or carports, at grade level exterior locations, within six feet of a wet bar counter top or kitchen counter tops shall have ground fault circuit interrupting protection. Note, on the drawings, each outlet requiring such protection. Article 210.8 NEC.
  14. Note and specify that two or more 20 amp small appliance circuits shall be provided to serve the kitchen, breakfast room and dining room. Such circuits shall have no other outlets. Article 210.52 NEC.
  15. Note and specify that at least one 20 amp branch circuit shall be installed to serve the laundry room and this circuit shall have no other outlets. Article 210.11(c)(2) NEC.
  16. Note and specify that outlet boxes in the wall between the dwelling and the garage shall be metal or U/L approved fire-resistive plastic. Outlet boxes in the garage ceiling shall be metal or rated "approved" for ceiling use. Section R317 IRC.
  17. Indicate the location of all air conditioning and heating units, air handlers, compressors and disconnects.
  18. Provide a service receptacle within 25' of and at the same level as the equipment. Section 210.63 NEC.
  19. Indicate location of convenience outlet and light with switch for attic heating and air conditioning equipment. Article 210.70(A) NEC.
  20. Provide smoke detectors. Indicate locations and note installation requirements on the drawings. Comply with location requirements in Section R314 IRC. Note that all smoke detectors must be interconnected with a power source from the building wiring and shall be equipped with battery backup.
  21. Where ceiling fans are shown on the plans, provide a note indicating that only approved outlet boxes shall be used. (NEC Article 314.27(d).
  22. Add a note indicating that surface mounted incandescent light fixtures in clothes closets shall maintain 12 inches between the fixture and the nearest point of storage. NEC Article 410.

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23. Arc-Fault Protection shall be provided for branch circuits feeding all outlets within bedrooms or sleeping areas, family room, dining room, living room, parlors, libraries, dens, sunrooms, recreation rooms, closets hallways and similar uses. Section 210.12 NEC.

**TRUSS SYSTEMS:**

1. Provide complete truss calculations and truss layout plan. Truss designs submitted must include all types and be designed for the loading conditions, span, slope, and spacing designated on the framing plan.
2. Truss calculations must be signed, dated and sealed by an Engineer who is registered in the State of Arizona.
3. The seal on the truss calculations shall be dated within the latest IBC/IRC adopted.
4. All truss calculations shall be cross-referenced to the truss layout or the roof and floor framing plans.

**GREEN BUILDING:**

1. Include the 2012 IECC building requirements in the plan design, notes and details.
2. Incorporate designs, details, instructions and requirements onto the plans and reference where applicable.
3. Complete REScheck or equal report for each house.